Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

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(See inside back cover for details)

AUGUST 1914

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ELECTRIC Hotpoint RANGE

and WATER HEATERS

August, 1934
Vo. 7. No. 8

Electricity on the Farm

IN THIS ISSUE

Water Running for Mother Instead of Mother Running for Water

BY H. J. GALLAGHER

An abundant supply of fresh water about the farm is a necessity but cannot be had in great quantities via bucket. There is a farm water system to meet every requirement and which will put the water bucket into permanent retirement. The author presents water system facts on page 4.

Selecting Equipment for Irrigation

BY RICHARD BOONSTRA

To insure a crop against off-schedule rains, irrigation is the only solution. But to solve the problem properly a thorough study of requirements, conditions and equipment needed to meet specifications is necessary. Suggestions to help avoid mistakes in planning for an irrigation installation are presented by the author on page 7.

The S. S. S.— A Code for Cooks

BY VERA B. MEACHAM

The S. S. S. abbreviation employed by the author on page 9 signifies safety, simplicity, and surety of operation where an electric range does the cooking. The tasks of the farm housewife are legion, and she therefore deserves the best in equipment to ease the work food preparation. The electric range is the answer.

Regular Monthly Features

Electrical Housekeeping, page 13; On the Air, page 15; Questions and Answers, page 17; What's New, page 18.

"Pure water is the best of gifts
That man to man can bring"

LORD NEAVES (1828)

WITH a growing shortage of water, due to drought, a lowering of ground water level and a gradually increasing demand for water, the water supply problem on farms is a serious one today.

Where hand pumps are employed, every foot increase in lift of water from wells make a hard task just so much harder. And the hotter and dryer the weather, the more water that is used around the farm household. Where rain water cisterns are dry, water for laundrying must also be taken from the well, adding further to the burden.

The story is different where electrically-driven water systems are in service. They continue to supply all the water needed without hitch—as long as there's water in the well. When rain water cisterns go dry, they take up the added load without complaint. They work faithfully and economically.

The farm home equipped with an electric water system is doubly blessed: standards of cleanliness can be maintained through drought without adding to the labors of the farm folks; health is protected by a plenteous supply of pure water without an increased burden on those who would otherwise have to pump by hand.

And to encourage wider adoption of modern, electrically-driven pumping equipment, the manufacturers of well pumps have recently established new low price scales which make available the best in electric farm water systems at prices lower than ever before.

Thus an unusual opportunity is presented to those on farms to modernize their water supply systems and thus guard against further troubles from drought and decreasing water supply.

THE PUBLISHERS.

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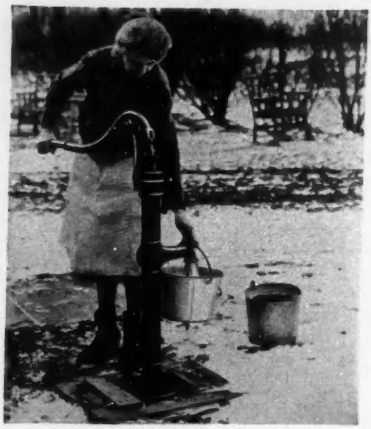
"WATER RUNNING Instead of Mother

By H. J. GALLAGHER



Weather conditions have no regard for the demand for fresh water. Summer or winter the pumping and lugging goes on unless "you let the water do the running."

IF a miracle occurred that established city water mains along all the highways and roads of the country, how easy it would be for each farmer to connect his house with these mains. It is reasonable to assume that under these conditions no farmer would fail to accept the opportunity of providing his family with the conveniences and comforts, combined with better health and greater sanitation that are associated with an abundant supply of running water.

But why dream of miracles when practically every farm already has its own water main close to the house and supplying a quantity of water more palatable than most cities have.

In the case of the city system a large pumping unit supplies many people. On the farm a smaller pumping unit supplies the family. This small difference between the two systems has resulted in depriving a large percentage of farmers the luxury of "letting the water do the running" and maintained the despised drudgery of "running after the water."

With the modern improved designs and low costs of farm water systems there remains little excuse for the familiar footpath between the house and the well. The electric energy of only 14 K. W. H.,

The activities of the farm kitchen are centered around the source of water.

FOR MOTHER

Running for Water"*

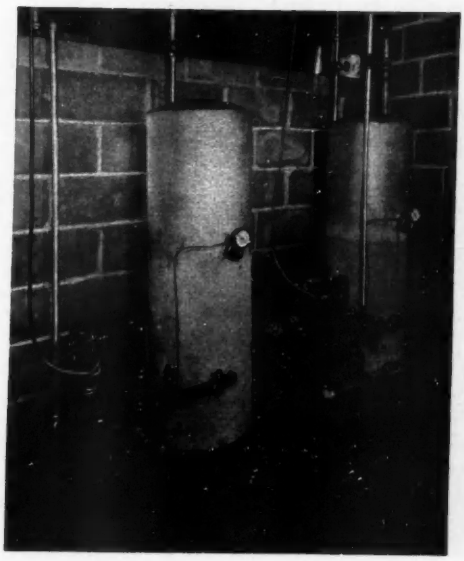
which normally costs less than $1.00, would save the human energy of carrying 30 tons of water a distance of 30 miles a year on the average farm without a water system.

Satisfactory operation of farm water systems is largely dependent upon the type of water system, the kind of power used and the capacity of the pump.

A shallow well pumping system may be used where the vertical suction lift between the pump cylinder and the water level in the casing does not exceed 20 feet. The pump may be installed in the basement of the house or where it has protection from freezing. Shallow well pumps are lower in cost than deep well pumps, and the temptation often exists for the farmer and the salesman to stretch the vertical suction limit and install a shallow well pump on a deep well. Many of the shallow well pumps when new will operate on a vertical suction of 25 feet, but due allowance should be made for some decrease in efficiency as the pump is used

*The title of this article was suggested by Chas. J. Taylor of Dallastown, Pa., who submitted it in the cover title contest of this magazine for April and won therefor first prize.

A modern bathroom makes it possible for the entire farm family to enjoy better health.



The H. C. Madans family of Michigan enjoy the service from soft and hard water systems.

over a period of time and for lower water levels during dry seasons.

Deep well pumping systems should be used when the vertical distance between the cylinder and the water level exceeds 20 feet. The pump must be mounted over the well with the cylinder close to or preferably below the water. The pressure tank and automatic switch may be installed in the basement or where protected from freezing. An antifreeze attachment can be used to keep the water below the frost line in the well pit.

The kind of power available naturally falls into four classes: human, wind, internal combustion engine and electric. The most expensive, the most inefficient and the most unsatisfactory power is human energy. It requires no further discourse. We are all familiar with its application. Windmills have no automatic features. They operate only when the wind blows and should be supplemented with large storage tanks that often result in an expensive installation. The gas engine is lower in cost and usually more dependable than

the windmill, but it requires mechanical attention and should be used in connection with a storage tank sufficient for a day's supply of water.

The Ideal Power Unit

The electric motor is the ideal power unit for pumping. It is low in cost, completely automatic in operation, is dependable, and requires practically no attention except occasional oiling. The rapid extension of electric service through the country makes it possible for farmers to take advantage of this flexible source of power. The cost of electric pumping is low. One K. W. H. pumps on an average of 500 gallons of water. If electric service on the farm was used only for lighting and pumping water under pressure to the house, it would be worth the ordinary expense involved.

The capacity of a water system is rated in terms of gallons per hour. A general mistake is the purchase of too small a pump. To the man who has pumped by hand, the small pump of 200-300 gallons per hour capacity looks big, but with running water available, the demands of the family will increase from about 4 gallons to approximately 30 gallons per person a day, and the small pump would not have sufficient capacity unless supplemented by a large storage tank.

A pump of 400-600 gallons capacity with a small storage tank would cost about the same as the small pump and large tank, but would prove more satisfactory for general farm use. A 30-40 gallon tank is sufficient with the larger pump and furnishes a reliable air cushion for the operation of the pressure switch. Large storage tanks are only desirable on slow flowing wells where the small pump must be used. Reserve storage as an emergency when the power is off is an unwarranted investment as power interruptions are too few and far between.

Either type of system regardless of the size of the tank can be equipped with a fresh water tap that delivers drinking water direct from the well. The electric motor should not be installed in a wet pit as it operates more satisfactorily in a dry, well ventilated place.

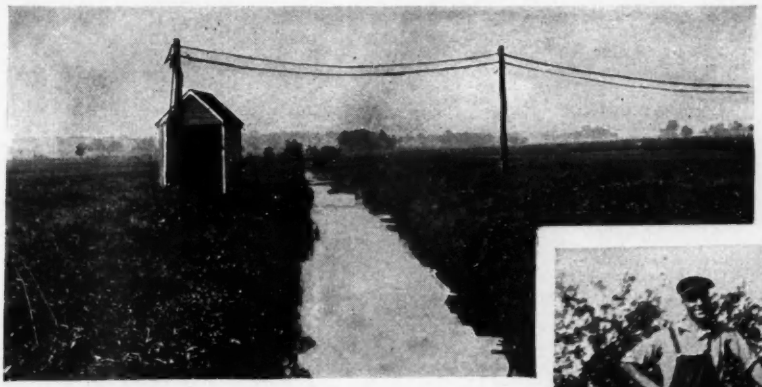
The water pipes should always be laid below the frost line. It is easier digging an extra foot through unfrozen ground in laying the pipes than digging up frozen pipes in the winter. A number of farmers will testify to this statement after their experiences last winter with frozen pipes.

Favored by Farm Women

Farm women that have electric water systems are of the general opinion that if a choice had to be made between the water system and other electrical equipment that the water system would be the last to go.

In a recent issue of a magazine there appeared a story with its cowboy hero and beautiful heroine. In his elopement proposal of marriage, one of the inducements he offered was that he would run some sort of a trolley and pail from the house to the well so there would not be so much work packin' water. This inducement may have appealed to the young ladies of the farm at one time, but a much safer bet today would be the conveniences and comforts of the electrified farm home.

A farm laundry where kilowatts save kilo-kinks in human muscles.



Above: Centrifugal water pumping installation using 5 H. P. electric motor and pumping 80 gallons per minute out of a stream on the Jacob Bulthius farm at Willow Springs, Illinois.

Right: Turbine type of deep well pump connected to 5 H.P. electric motor delivering 54 gallons per minute through a sprinkler system over 5 acres on the W. C. Nightingale farm at Arlington Heights, Illinois.

SELECTING EQUIPMENT FOR IRRIGATION

By RICHARD BOONSTRA

WHEN the subject of irrigation is discussed, one naturally thinks of California and the crops of excellent quality her farmers raise by applying water to the soil at just the right time.

Here in the Middle West we have the same sun shining on the crops but expect the water to come from the sky at the right time. For the past several years the rains have been off schedule and consequently a large number of truck farmers have not been able to make a good living; in fact, they have lost thousands of dollars in seeds and plants which did not mature for market. A small group of those farmers, however, have given considerable study to irrigation and installed water pumping plants, with some very interesting results. Photographs of three such plants and their locations are included in this article.

In the writer's experience with irrigation problems, he has found that one of the most common mistakes made is to begin looking around for a pump before making a thorough check-up of the water supply system with the local well driller, either where a new well is to be drilled or the capacity of the present one increased.

It is always helpful to give a well driller some definite information as to the amount of water required. This may be done as follows: Figure how many acres of land are to be irrigated and plan on using a maximum of three inches of water *per acre* per month. Three inches of water on an acre means that the well should have sufficient capacity to supply 3 x 27,154 gallons, or 71,462 gallons of water *per acre per month.*

Quite a number of farmers in this section of the country have had wells drilled which take a casing six inches in diameter. However, it is also common practice to install well casings of four inches in diameter, particularly among those who feel that the six inch well costs too much money. Many farmers change their plans for installing the smaller casing when it is pointed out to them that a six inch well can deliver a little over nine times as much water as a four inch well, provided both wells have plenty of water to draw on.

When the well has been drilled and the driller has completed his tests so that he can give the customer the capacity of the well in gallons per minute or hour, it is time to begin looking around for a pump. Again it is suggested to the customer that he go to his local pump dealer, or if the well driller sells pumps (which is not often the case), that the customer consult with him. If overhead irrigation is planned, the pump dealer's representative familiar with irrigation piping should also be consulted.

Cost of pumping water depends upon the size of the electric motor required to operate the pump, and the size of the electric motor depends upon the

Jacob Bulthuis of Willow Springs, Ill., at work harvesting radishes raised entirely by overhead irrigation.

distance the pump must lift the water from the well, the amount of water and the size and length of overhead piping to be connected to the pump. It is important to plan each step carefully, and thereby save trouble later on.

Some truck farmers have available a stream which runs through their property. In such a case the problem of water supply is comparatively simple, but costly mistakes may be made in the selection of a centrifugal pump for handling the water. A few suggestions may therefore prove helpful to those who are able to make use of the streams on their land.

The same procedure is followed for water requirements as when a well is drilled, but one has quite a variety of pump capacities to select from. It seems to be quite a common habit among some farmers to visit industries in nearby communities in the hope of finding a discarded centrifugal pump. Occasionally such a pump is located. It may have served its purpose well in the factory, and so the buyer thinks it will do equally well for irrigation purposes. This is rarely the case. Much time and money will be saved by first reviewing the problem with a water pump manufacturer's representative, who knows the requirements of centrifugal water pumps and how they should be used.

With regard to choosing the proper size of pump, the following typical example will serve as an illustration. Suppose it is necessary to pump water on a field through open ditches and that about 600 gallons per minute, or 36,000 gallons per hour, is wanted. Assume further that the bank of the stream is ten feet above the water. The farmer could select a centrifugal pump having a six inch suction pipe and a short six inch discharge pipe,

(*Continued on page* 18)

Field of neighbor where crops were burned and dried up for lack of water.

Right: Sure, you can always have your oven right for cakes.

Below: Mrs. C. C. Linham of Mansfield, Ohio, enjoys cooking because the electric range is so much cleaner than the coal or oil type ranges.

THE S. S. S.— A CODE FOR COOKS

By VERA B. MEACHAM

IF there were a code for cooks that are wives and nursemaids, cooks that are housekeepers and gardeners as well, it would stipulate, I feel sure, that the cooking should be done with modern tools in modern ways. Electric cooking offers special help and protection to women busy with the care of children as well as the house, and concerned as most of us are, with the need for getting the most from every dollar.

First, because it is safe.

There are no matches around an electric range.

That wipes out one danger right away, for matches are guilty of many a fire no one meant to start. There is no fuel storage in the kitchen or even in the basement. There is no open flame to be blown against curtains or dish towels, or to catch the sleeve of a careless little arm. There are no gases given off.

Instead, the current comes in over wires whose connections are all carefully covered and through switches properly fused to give protection. When you slip off for forty winks while the bread is in the oven, or if you want an hour in the garden while dinner is cooking, you can leave the stove without anxiety. The fire,—and the baking,—will go on quite safely without you.

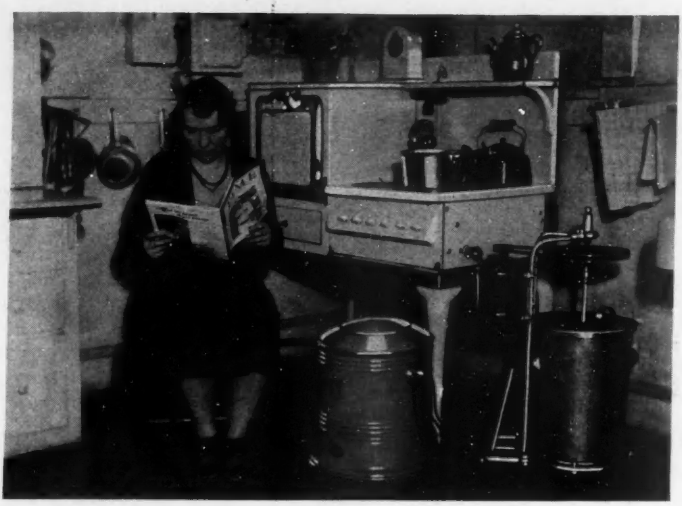
The second advantage is its simplicity.

A four year old child can build a fire for you, for she does it merely by turning a convenient button on the front of the stove. As soon as she turns the button, electricity flows through the wire in one of those burners on the stove top and the heat is there.

Heat Evenly Distributed

It is always the same amount of heat, evenly distributed throughout the burner. It is steady and reliable. The current is left on full to bring foods to the steaming point, to heat water, or fat for frying, but after boiling begins, or the fat turns a bread crumb brown, you do not need so much heat. For a lower fire, you have only to turn the button once more, and just to maintain boiling, you can turn it still again, to the point marked low.

This is a much simpler matter than kindling a fire, than trying to make it hotter or cooler by



Mrs. R. F. Sams of Clarkston, Georgia, is equally as proud of her electrical appliances as she is of her electric range which makes it possible for her to enjoy additional leisure time.

judicious refuelling with corn cobs, coal or wood. It takes experience as well as a good bit of patience to handle a fire with those,—and as important as either to a busy woman,—it takes time.

A third advantage is its certainty.

Because in the surface burners you have a measured heat, always the same, never flaring up to burn more briskly, never dying down because you forgot to put in wood, and because in the oven the heat can be kept at any temperature your baking requires by means of a thermostat, one element of chance is taken out of your cooking. The fire is always right.

If you are a careful person, if you use good materials, and reliable recipes; if you measure accurately and follow directions, there should be no uncertainty about the results.

You set the oven regulator at 375 degrees. You put the fat white loaves of bread in at ten,—and then take them out at eleven, brown, and fragrant, and crusty. Next Friday it will bake just the same way, and on all the Tuesdays and Fridays to come.

This certainty of good baking from measured heat, measured materials, and measured time, saves

The electric range is one of the electrical household servants on the farm of W. Fuest, Kewanee, Ill.

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BUY NOW TO GET LOWEST CID PRICES EVER QUOTED . . . . .

NOW ONLY $49.85 UP

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And see how running water pays for itself: Raised milk production from 100 quarts to 108 and 112; chickens laid more winter eggs; cattle and hogs took on weight; sprayed orchards yielded more. And real protection against fires.

Due to 85 years of Goulds Pump experience CID water systems are extremely simple, trouble-free and the easiest on the market to service. Electric driven—*fully automatic*—start and stop themselves, control their own air volume, provide against over-load and voltage variation. Over long periods CID Pumps have set enviable records for low-cost operation.

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Please send free Booklet. I am interested in pump for:
(Please check.)

☐ Shallow Well ☐ Deep Well

Name _____

Street or R. F. D. _____

Place _____ *State* _____

Safe

money that might be lost in burned or soggy foods. It saves the time that is wasted in carefully preparing them—and it saves a good deal of disappointment and ill temper over poor results.

A woman wrote me the other day, "I almost never have a variation in my cakes and cookies because the temperature of my oven never varies. I think that is something every housewife is looking for."

And Mrs. Henry A. Klein of Lockport, N. Y. further emphasizes this very point in a letter in which she points out how her electric range gives her time for other work.

"Having formerly used oil and coal for cooking, I certainly appreciate the speed, cleanliness, and labor saving value of my electric range. I no longer have to scrub blackened pans nor look after fuel and ashes. Nor do I worry about results of my baking, for the temperature of my electric oven can be set and held exactly where I want it."

As some one pointed out in a study of electric ovens not long ago, "The certainty of automatic mechanical oven heat regulators which control the temperature by regulating the supply of heat is helpful to the experienced cook who would always obtain the same results with a given recipe,—and to the beginner who has nothing to guide her in estimating the length of time required to get slow, moderate, and hot stages in her oven."

Accuracy in Heat Control

This accuracy of heat control makes good cooks better and rumor has it that it turns poor cooks into good ones over night.

Cooking with electricity is safe, simple, sure—. This S.S.S. is no alphabetical offshoot of some government organization, nor has it really any code of its own, but I maintain it deserves one, for it is so truly a factor in economic planning for the household. Wherever it is given a chance it begins cutting down hours of labor, saving household costs, and improving conditions for cooks.

Helped by Farm Loan Program

The readers of ELECTRICITY ON THE FARM were recently asked to report whether they or their neighbors had been helped by the Government's Farm Loan Program. Reports were received from 1202 farms from all parts of the country, 39 states being represented.

It is interesting to note that 40% said "yes," 25% said "no," and 30% said "may be."

In California 84% said "yes"; in Florida, 33⅓%; in Indiana, 44%; in Iowa, 60%; in Mass., 30%; in New York, 30%; in Texas, where 5 farms reported, the answers were 100% "yes," and in Wisconsin, 43%.

An Attractive Roadside Stand

The roadside stand is the outlet for the produce of thousands of farms.

There are a number of attractive stands that one finds in the day time, but what attracts the city customer when out for the evening drive?

Some places have a string of lights in from their stands, but these places do not attract the customer as much as the places that have less lights well placed.

A farmer near Syracuse, New York, has a roadside stand with ornamental lighting and the stand is known for miles around as the stand with ornamental lights.

ELECTRICAL HOUSEKEEPING

Conducted by GAIL MEREDITH

DRINKS FOR DOG-DAYS

I FEAR this title may be a mistake after all. There are those who might, at a hasty glance, assume that the subject of this article is the train-

ing and care of dogs and be misled thereby. It isn't at all. Dogs can get along quite happily year after year with fresh cold water in their saucers. Folks are different. You've heard your family say a thousand times if you've heard it once,

"There's nothing like a drink of good, cold water, is there"

But all the same they welcome variations when it comes to meal times and parties. In fact the experienced housewife finds drinks as important as desserts in the planning for summer meals. There is no end to the combinations that can be made, and with mechanical refrigerators giving us chunks of ice in just the right size for tall, cool drinks, serving them really cold is an easy matter.

Young Folks Like Refreshing Drinks

If there are young people in your household, and other young folks are apt to gather in your front yard most any night and Sunday in incalculable and sometimes bewildering numbers, you will win their everlasting admiration and gratitude if the makings for drinks are always ready at hand.

The first step is a supply of syrups.

A sugar syrup sweetens cold drinks better than granulated sugar, and gives more body to lemonade and other fruit drinks. You make it by putting 1 cup of sugar and 1 cup of water into a sauce pan and stirring until the sugar is dissolved. Then bring it to a boil and boil it without stirring for five minutes. Cool it and keep it in a covered jar in that corner of your refrigerator set aside for drinks.

For a coffee syrup you substitute a cup of strong coffee for the water and boil for ten instead of five minutes.

For a chocolate syrup cook ½ cup of cocoa and 1 cup of water together, stirring them until the mixture is smooth. Add 2 cups of sugar and ⅛ teaspoon salt, and continue stirring until it is all dissolved. Then boil three minutes and add 2 teaspoons vanilla. Put in a jar and seal with a rubber ring to prevent sugaring.

And now for the drinks. Let us begin with a simple recipe for that perennial favorite, iced tea.

Scald an earthenware tea pot. Put in 6 teaspoons of tea and pour 4 cups of boiling water over it. Let it steep for five minutes. Strain and cool.

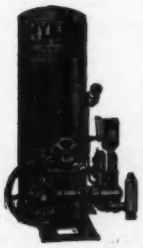
While a critical judge of good tea may recommend that the fresh tea be poured directly from the pot into the glasses half full of ice cubes, it is quite possible to make good iced tea hours before you want it. If it is strained immediately, then cooled, it can be kept in the refrigerator until you are ready to serve it with a little sugar syrup, a squeeze of lemon juice, and a sprig of mint. This way is easier on the ice cubes.

A Popular Summer Drink

Even the man who sputters if his coffee is cold takes a second glass of iced coffee these days. A friend of mine who makes it rather well makes her coffee as usual, only a little stronger. She pours it right from the pot into glasses half full

RUNNING WATER

Buy that Water System NOW



QUALITY unexcelled; economy of operation unsurpassed — and now, prices that you may never again be able to duplicate! You already know MYERS reputation. Now get MYERS prices and you will realize that it is time to act. Water systems to suit all needs; for deep or shallow wells. Write today for free booklet and name of nearest dealer.

THE F. E. MYERS & BRO. CO.

362 Orange St., Ashland, Ohio - *"Pump Builders Since 1870"*

Is this cold enough for you?

of ice. Then she passes the cream and sugar at the table so everyone can add the trimmings to suit himself.

Some folks like iced coffee black with whipped cream on top. Some put the cream and sugar in before they chill it, and some folks make a grand drink of it with a pint of vanilla ice cream. This frosted coffee, as it is called, may be made with cold coffee and ice cream, or with 1 cup of milk, two tablespoons of coffee syrup, and a heaping tablespoon of ice cream for each person.

Put the syrup, milk and ice cream into a tightly covered jar and get some of the men folks to shake it well. Then pour it into a glass over crushed ice.

Iced tea and iced coffee are exclusively grown up drinks, but a chocolate milk shake and any of the fruit juice combinations are good for children, too.

With three tablespoons of chocolate syrup, a cup of milk and a tablespoon of ice cream, all together in a jar, you can shake up a drink that would do credit to a professional. And if the ice cream is miles away, the ice cold chocolate and milk will be almost as popular.

Suggestions for Fruit Combinations

The Bureau of Home Economics of the United States Department of Agriculture suggests some special fruit combinations for party drinks. Orange juice, crushed pineapple and strawberries with a little lemon is one. Or for a beautiful clear red drink, cherry, currant, raspberry, strawberry or a blend of these juices. Even raspberry, strawberry, lemon and orange is recommended. Red and amber colored drinks, they think, are particularly enticing these hot days.

• • •

WOOING THE WIND

AT ten minutes past ten of a summer night a breeze in your bed room insures a comfortable night's rest whatever the temperature. If there is no breeze, you can turn one on with a small electric fan.

The new fans are better looking and quieter than ever this year. This cream colored enamel fan has polished aluminum blades and chrome trimmings. It swings about in an arc of 80 degrees, swirling the air about through all the room.

The other fan with a gracefully curved supporting column is finished in black and silver or bronze

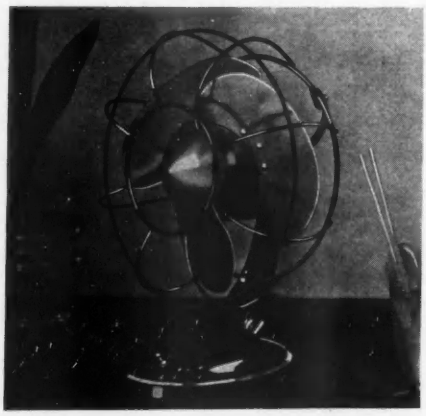
You can turn on a breeze whenever you wish with a small electric fan.

and gold. The motor for the fan is enclosed in that torpedo shaped shell that serves also as the hub for the blades.

Give Excellent Results

Their manufacturer claims that the new design of these fans gives an output usually attained only by much larger fans.

When you are resting, or sleeping, at the baby's nap time, or in the sick room, these fans will woo the winds for you, and whirl out comfort in cool breezes.



The motor of this fan is enclosed in the torpedo shaped shell which serves also as the hub for the blades.

ON THE AIR

Conducted by Jerome J. Henry

In Sixth Year on Radio

CLARA LU 'n' EM are presenting their sixth year of entertainment on the air. Every morning their delightful humor pleases homemakers throughout the nation. More than five years ago, the gossipy girls were first auditioned for a radio broadcast.

Throughout their college careers they had amused their sorority sisters with chatter on practically any subject that one might name. After graduation they separated with no thought of continuing their gossip act and still less thought of ever receiving money for it. Clara taught speech in a Texas school for girls, Lu went to Boston to teach, and Em taught first in Colorado and later in Chicago.

Actually it was Em who was responsible for their radio debut. She aspired to be a radio organist or pianist, but found that field barred to her because she lacked membership in the musicians' union. By a strange coincidence the three girls met in Chicago again, and at the suggestion of a friend, Em proposed that they try their old act in radio.

They obtained an audition at station WGN and were signed up immediately. Each bought a five dollar dress out of the first pay check. In January, 1931, they started broadcasting over an extensive network over which they have been heard ever since.

Fred Waring who, according to a survey conducted by ELECTRICITY ON THE FARM, ranks high in the list of popular orchestra conductors. Waring is heard twice weekly over CBS stations in behalf of the Ford Motor Company.

• • •

Farm Programs

THE following broadcasts will be heard during August over NBC stations at 12:30 p.m., Eastern Standard time.

August 1: Home Demonstration Radio Hour.
August 4: National 4-H Club program; U. S. Marine Band.
August 11: American Farm Bureau program.
August 13: Future Farmers Hour; U. S. Army Band.
August 15: Land Grant College program.
August 18: National Grange program.
August 25: Farmers' Union program.

• • •

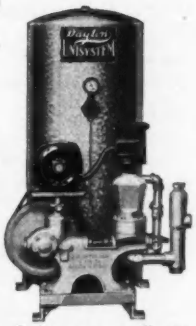
Conservation Hour Every Friday

TO encourage interest and action in preserving and developing our natural resources, forests, wildlife, soils, minerals, and waters, every Friday on the National Farm and Home Hour is known as Conservation Day.

During August many talks on Conservation, including both the entertaining and more serious phases will be included in the programs. On August 3, for example, John Collier, Commissioner of Indian Affairs, will speak on "The New Indian

(*Continued on page* 16)

Choose a Dayton, your family deserves it!



• **When buying your water system, choose one that will last a lifetime. Hundreds of the first Dayton systems installed twenty-six years ago are still in daily service supplying low cost running water for farm families. Your family deserves the dependable, carefree, life-time Dayton.**

Dayton Pumps and Systems are priced as low as $44.75 f.o.b. Dayton.

Insist upon a Dayton. Ask your Power Company, retail dealer, or write direct to the factory.

THE DAYTON PUMP & MFG. CO.
DAYTON, OHIO

Free Information

The need for efficient and economic farm operation has never been greater. Do you know exactly how much electricity can help you?

Here is a list of tried and proven equipment and names of manufacturers who can help you.

Get acquainted at once with these manufacturers by writing for free literature which they offer.

For information about other applications for electricity not included in this list—use the handy coupon below.

Water Systems

	Page
Goulds Pumps, Inc.	11
Myers & Bro. Co., F. E.	13
Dayton Pump & Mfg. Co., The	15
Everite Pump & Mfg. Co., The	17

Electric Ranges

Edison G-E Appliance Co. ..... *Inside Front Cover*

Refrigerators

Frigidaire Corp. .....

Water Heaters

Edison G-E Appliance Co. ..... *Inside Front Cover*
Esco Cabinet Co. .....
Wiegand Co., Edwin L. 16

Dairy Utensil Sterilizers

Esco Cabinet Co. .....

Milk Cooling Equipment

Esco Cabinet Co. .....
Frigidaire Corp. .....

Stationary Spray Pumps

Myers & Bro. Co., F. E. 13

Electric Poultry Supplies

Trumbull Electric Mfg. Co. .....

Clipping Machines

Chicago Flexible Shaft Co. .....

Range Replacement Units

Edison G-E Appliance Co. ..... *Inside Front Cover*
Wiegand Co., Edwin L. 16

Electric Fencing Unit

Gengler Mfg. Co., E. J. .....

FREE INFORMATION REQUEST

Electricity on the Farm, 24 W. 40th St., New York

Without cost to me, please have manufacturers send complete information on the following Electrically Operated Equipment which I am thinking of buying.

....

....

My name is .....

Address .....

.....

I get electricity from .....

..... 8-34

On the Air

(*Continued from page* 15)

Policy—Conservation, Human and Natural." B. H. Crocheron, director of extension in California, on August 24, will speak on "Conservation of Rural Areas for Recreational Purposes."

All of the programs carry a variety of entertainment features including the ever popular dramatic sketch, "Uncle Sam's Forest Rangers. Written by a Ranger in Colorado, these episodes portray actual experiences of the men who manage and protect the national forests.

Appropriate music is provided by Walter Blaufuss and the Homesteaders, and The Maple City Four, radio's most versatile quartet, provide harmony, novelties, and outdoor songs. The broadcasts are heard at 12:30 p.m., Eastern standard time, over NBC stations.

• • •

Joe Cook Stops Inventing to Tell Stories

"I'M inventing a new microphone that will report instantaneously what is being said at the other end of say a half dozen representative sets," reports Joe Cook, the old inventor who is now fooling around a radio studio every Saturday night, over NBC stations.

"Otherwise I'm through with inventions," asserted the latest Broadway recruit to the ranks of radio stars. "I'm concentrating on story telling from now on. This radio house party makes the transition much easier because I've been an habitual house party giver for years. I like to have folks around so I can try out new stories on them. And now I even get paid for being host to a Saturday night get-together, where all I have to do is what I like best."

The star of many stage plays known all over the country has planned a new brand of radio hokum. He's building up a series of radio characters guided by listeners' reactions. The version started off with a father and mother—because every one has had them, Cook explains.

New material, Cook works out by having a perpetual house party at his home in New Jersey called "Sleepless Hollow." Cook always starts out telling a straight story. Then as the merrymaking goes on he gets an inspiration for a goofy ending.

Try Chromalox
FREE on your own range
CHROMALOX
SUPER SPEED RANGE UNITS
Save 20% of your cooking time and money!
— For Details —
ASK YOUR POWER COMPANY
or write to EDWIN L. WIEGAND CO., 7580 Thomas Blvd., Pittsburgh, Pa., Mfrs. of Chromalox Electric Heating Units.

Questions and Answers

Conducted by H. J. GALLAGHER

Question: *I use a 20 hp. 220 volt motor in my barn to run the elevating machinery and the grinder. When filling the silos at the end of the barn I take the motor down and mount it on a wagon and use it for power. I have a conduit run down to that end of the barn and use a triple conductor armored cable some 60 feet long to connect the motor to the outlet box at the end of the conduit. The connections are all bolted with small bolts and as there is stock in this lot at night we have to tape and untape, bolt and unbolt, too many times. Can I not purchase some kind of terminals and receptacles which will work somewhat like the plugs on ordinary small appliance cords? If so, to whom should I write? Once before I made similar inquiry and was advised to consult my local power company. I was never able to get any information from them, however, as they did not know of any such equipment.*

ELWIN W. DALES.

Answer: The type of power plug and receptacle that would answer your requirements can be secured from a number of manufacturers of electrical equipment, including The General Electric Co., Schenectady, N. Y., Trumbull Electric Mfg. Co., Ludlow, Ky., Square D Co., Detroit, Mich.

Question: *Would you please tell me if a ¼ H. P. motor would have more power on 220 volt service than on 110 volts?*

J. C. MARSON,
Seattle, Wash.

Answer: Single phase motors of the repulsion-induction type are generally wired to operate on either 110 or 220 volt service. When operating on 110 volts the windings of the motor are in parallel; when on 220 volts the windings are in series. Each time the motor is changed from 110 to 220 volt service or vice versa the wires leading from the motor must be connected in a different manner to the supply line.

The amount of power delivered and the electric energy consumed are the same in either case.

The advantages of 220 volt operation are that both sides of the service line supply the motor maintaining a more balanced condition on the line and permits of the use of smaller service wires to the motor. It is usually preferable to connect stationary motors to 220 volt service. Small portable motors, including ½ H. P., are generally equipped with an extension cord for 110 volt service so they can be operated from the ordinary convenience outlet.

A ruling of most power companies prohibits the use of motors larger than ½ H. P. on 110 volt service.

Question: *We would like to obtain some information and data on the following questions:*

Would it be possible to purchase a rectifier that would take less than 110 volts A. C. current to operate? We intend to build a 32-volt house lighting system, and wish to use a model T-Ford magneto for a generator.

Owing to the fact that this magneto or generator is A. C. current it must be changed to D. C. current to be of any value as a generator. We intend to use wind power to operate the system, and as these magnetos produce current at a very low rate of speed it would make a good outfit for this purpose.

Your opinion on the above would be appreciated.

—N. B.

Answer: The current that would be generated from a model T-Ford magneto would be negligible as far as any practical lighting use was concerned. All generators produce alternating current within themselves which is changed to D. C. at the brushes by means of a commutator. Only D. C. can be used for storage batteries.

The voltage of A. C. can be raised or lowered by means of a transformer; the voltage of D. C. can be changed, but not by a transformer. The method is too complicated and impractical to consider.

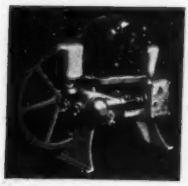
The strength of the current produced at the generator depends upon the strength of the magnetic field and the rate at which the wires on the rotor cut the magnetic lines of force.

A Ford car battery generator would not have sufficient capacity to charge the 16 batteries of a 32-volt system; a 32-volt generator is required. The most practical and economic procedure would be to secure a 32-volt generator that was made by a reputable manufacturer.

Under some conditions wind power has been satisfactory for the operation of 32-volt generators; the usual method of operation is by gas engine, however.

EVERITE - WESTINGHOUSE

Pumps and Water Systems



Outstanding quality throughout. Simplified construction. Designed for years of efficient and satisfactory service.

All sizes. All capacities for both shallow and deep wells.

LOW PRICES. Insist upon comparisons before selecting.

Complete stocks with accessories available in every district.

ASSURED SERVICE
GUARANTEED QUALITY
UNUSUALLY LONG LIFE
MINIMUM OPERATING COST
CAPACITIES GUARANTEED AT 40 LBS. PRESSURE

Write Today to

EVERITE PUMP and MFG. CO.
Lancaster, Penna.

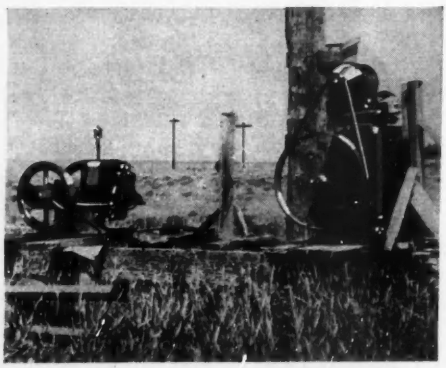
Equipment For Irrigation

(*Continued from page* 8)

which would only require a 5 h.p. electric motor. Let us further assume that this pump and motor are bought and a month later he decides to pump water to a field 1,000 feet away. If he selects six

Centrifugal pump with a capacity of 150 gallons per minute connected direct to a 10 H.P. motor pumping from a drilled well to irrigate 5 acres of potatoes on farm of John Hoekstra, Wichert, Illinois.

inch pipe for this job the pump could deliver the same amount of water on the field, but the horsepower required would be increased to 14. In other words, it is very important that buyers carefully review their irrigation requirements in advance, as profits on crops can be easily wasted on water pumps not suited for the job.



A 2 H.P. motor which replaced a 5 H.P. gasoline engine delivers 15 gallons of water per minute on the farm of Wm. Matthies, Bloomingdale, Ill.

What's New

Reviewed by T. E. HIENTON

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request. Address *your requests to What's New Department,* ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Plug and Cord Set

The heater cord on the iron, toaster or other frequently used household appliance on the farm is often the most troublesome part of the equipment. Contacts frequently become loose with resulting unsatisfactory operation.

A plug and cord set, announced by the manufacturer of a well-known line of electrical appliances, is designed to overcome the difficulty of faulty contacts. Outside steel springs grip the terminal parts from the outside, leaving no space between the silver-plated brass contacts and the walls of the plug. Bottom edges of the plug are protected against breaking and chipping by metal.

Electric Milk Cooler

Dairy farmers faced with the necessity for keeping bacterial counts low to secure a premium for high grade milk have been first to recognize the merits of electric refrigeration units. Others, even though receiving no additional price for low bacterial counts, have adopted such equipment to eliminate losses from sour milk in very hot weather.

A complete milk cooling installation with the machine unit mounted on the cabinet lid has been announced by a middle western refrigerator manufacturer. Coils are located in the cabinet lid directly connected with the machine unit. Three sizes 4-, 6-, and 8-can capacities are available complete with unit and cabinet. A larger model of the same type of milk cooler without cabinet is available and plans for the construction of the cabinet furnished with the unit. Available cabinets furnished with units are lined with 18-gauge galvanized sheet iron and have one inch of insulation with an outside cover of 20-gauge sheet iron. The tank lip is protected by ⅛ by 2-inch iron bands.

On the Professor

A professor of chemistry was extremely hard of hearing and just as extremely anxious to conceal his infirmity. It was a habit of his never to have a student repeat anything; he always pretended to have heard the first time.

One day, after explaining a reaction on the blackboard, the professor inquired if anyone wished to ask further questions. One of the boys picked up the pointer, and indicated a stage in the formula.

"What I want to know," he shouted, and then suddenly dropped his voice to a conversational tone as he moved the pointer over the successive steps of the problem, "is why they let such an old fool as you teach something you don't know anything about."

The class burst into a laugh, and the professor, turning a reproving glance upon them, said, "I can see no reason for amusement. That is a perfectly sensible question."

Mrs. Rideout: What lovely fleecy clouds! I'd like to be up there sitting on one of them.

Mr. Rideout: All right, you drive the car.

AWARDS FOR COVER TITLES

JUNE COVER

$20 First Prize for June Cover

"He thought of the burdens 'twould help to lift
When he chose that range for her wedding gift."

MRS. ARTHUR BARTLETT, R.F.D. 1, Allen, Mich.

Nine $2.00 Prizes for June

"An electric range—a happy bride—
He looks upon them both with pride."
MRS. FRANK D. STONE, R.F.D. 2, Ashland, Mass.

"The bride views with pleasure her electric treasure."
MRS. CHRISTINE WINKLEPLECK, R. 2, Brazil, Ind.

"To a hot kitchen stove she'll not be tied,
An electric range is his gift to the bride."
ELSIE H. CREEK, R.F.D. 3, Liberty, Ind.

"Ideal gift for farmer's bride,
Electric cooking—his joy—her pride."
MRS. WILLIAM HOBB, R.F.D. 2, Youngstown, N. Y.

"An electric stove, a happy bride,
A husband radiant with pride."
MRS. ELVA SLATER, Delta, Ohio

"An electric range on her wedding day,
From the groom who would a sweetheart stay."
MRS. EDITH M. TITUS, R.F.D. 1, Farmdale, Ohio

"A wedding gift that can't be beat—
An electric range with controlled heat."
MRS. G. T. BALL, R.F.D. Box 131, Warwick, N. Y.

"The electric range, efficient and neat,
Makes the young bride's kitchen complete."
GEORGE SCHNELKER, R.F.D. 2, New Haven, Ind.

"What a glorious look on the face of the bride
When an electric stove in the kitchen she spied."
MRS. THERESA CONOVER, R.F.D. 1, Blackwood, N. J.

RULES
August Title Contest

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles need not be longer than 10 words — the shorter the better — and they do not have to rhyme.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, before September 1st.

Winning names and titles will be announced in the October issue.

Send your title on the coupon or make out a similar form on a plain sheet of paper or government postcard.

My title for the August Front Cover picture of ELECTRICITY ON THE FARM is.....

.....

.....

.....

(a) Fill in manufacturer's trade name for any of these Electric Table Appliances you now use in your home:

Electric Toaster ..... Electric Waffle Iron.....

Electric Coffee Maker..... Electric Grill .....

Electric Egg Boiler..... Electric Pressure Cooker.....

My name is..... R.F.D.....

Post Office..... County..... State..... 8-34

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New York, N. Y.
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1 KWH Costing a Few Cents Pumps 2 Days Supply of Water

for the Average Farm

PUMPING water is one use that every farm should make of its electric service. Water on tap adds to the comfort and satisfaction of everyone. It is a convenience that will be used dozens of times every day.

Running water benefits both household and farm operation, making work easier, saving time and steps in the daily chores, even increasing the productivity of cows and poultry.

The cost is so little it scarcely counts. Tests on Indiana farms show a consumption of only 1 KWH for pumping 1,000 gals. of water. The average daily requirement for a farm house, 8 cows, 6 horses, 25 hogs and 25 sheep is only 500 gals. of water.

Install running water NOW while electric pump prices are still low. For details call or write your local Dealer or Power Company Rural Department.

Electricity on the Farm

24 West 40th Street, New York
6 North Michigan Ave., Chicago

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